What is claimed is:

[Claim 1] 1. A light emitting device calibration system comprising:

a device under test including:

a light emitting device to be calibrated; and

a first microprocessor electrically coupled to the light emitting device for during a calibration mode controlling power of the light emitting device by changing values of a drive signal to the light emitting device, receiving a power indication corresponding to light emitted by the light emitting device, and determining a power relationship relating values of the drive signal to powers of the light emitting device according to a power indication for each of a plurality of values of the drive signal; and

a light detector coupled to the device under test for detecting the light emitted by the light emitting device to generate the power indication corresponding to the light emitted by the light emitting device.

[Claim 2] 2. The light emitting device calibration system of claim 1, further comprising a non-volatile memory for storing the power relationship determined by the first microprocessor during the calibration mode, the power relationship being used by the first microprocessor during normal operations for controlling values of the drive signal according to desired powers of the light emitting device.

[Claim 3] 3. The light emitting device calibration system of claim 2, wherein the non-volatile memory is a EEPROM or a FLASH.

[Claim 4] 4. The light emitting device calibration system of claim 1, wherein the light detector is a power meter having a photo sensor for receiving the light emitted by the light emitting device, and the power meter outputs an analog signal corresponding to an intensity of the light received at the photo sensor.

[Claim 5] 5. The light emitting device calibration system of claim 4, wherein the first microprocessor is directly coupled to the power meter and includes an analog to digital converter for converting the analog signal to a digital value.

[Claim 6] 6. The light emitting device calibration system of claim 4, further comprising a signal calibration circuit coupled between the device under test and the power meter, the signal calibration circuit for receiving the analog signal outputted by the power meter and outputting the power indication having an inverse relationship with the analog signal.

[Claim 7] 7. The light emitting device calibration system of claim 6, wherein the signal calibration circuit comprises:

an operational amplifier having an inverting terminal, a non-inverting terminal, and an output terminal, wherein the output terminal is for outputting the power indication;

a voltage reference source of a predetermined voltage value coupled to the non-inverting terminal;

a first resistor having a first end coupled to the analog signal outputted by the power meter, and a second end coupled to the inverting terminal; and

a second resistor having a first end coupled to the inverting terminal, and a second end coupled to the output terminal.

[Claim 8] 8. The light emitting device calibration system of claim 4, wherein the first microprocessor includes a digital interface complying with a transmission standard, the light emitting device calibration system further comprising:

a second microprocessor coupled between the device under test and the power meter, wherein the second microprocessor includes an analog to digital converter for converting the analog signal outputted by the power meter to a digital value corresponding to the analog signal and outputs the power indication corresponding to the digital value, and the power indication complies with the transmission standard.

[Claim 9] 9. The light emitting device calibration system of claim 8, wherein the transmission standard is RS-232 or USB.

[Claim 10] 10. The light emitting device calibration system of claim 1, wherein the light detector is a power meter having a photo sensor for receiving the light emitted by the light emitting device, and the power meter outputs a digital value as the power indication.

[Claim 11] 11. The light emitting device calibration system of claim 10, wherein the power indication complies with a transmission standard, and the first microprocessor includes a digital interface complying with the transmission standard.

[Claim 12] 12. The light emitting device calibration system of claim 11, wherein the transmission standard is RS-232 or USB.

[Claim 13] 13. The light emitting device calibration system of claim 1, wherein the device under test is an optical disc drive and the light emitting device is a laser diode.

[Claim 14] 14. A method of light emitting device calibration, the method comprising:

providing a device under test having a light emitting device to be calibrated and a first microprocessor;

providing a light detector;

controlling power of the light emitting device using the first microprocessor by changing values of a drive signal to the light emitting device;

detecting light emitted by the light emitting device and generating a power indication corresponding to light emitted by the light emitting device using the light detector;

receiving the power indication using the first microprocessor; and

determining a power relationship relating values of the drive signal to powers of the light emitting device using the first microprocessor according to the power indication for a plurality of values of the drive signal.

[Claim 15] 15. The method of claim 14, further comprising storing the power relationship determined by the first microprocessor in a non-volatile memory; and during normal operations, controlling values of the drive signal using the first microprocessor to control the power the light emitting device according to the power relationship.

[Claim 16] 16. The method of claim 14, wherein the light detector is a power meter having a photo sensor for receiving the light emitted by the light emitting device, and the method further includes outputting an analog signal from the power meter corresponding to an intensity of the light received at the photo sensor.

[Claim 17] 17. The method of claim 16, further comprising directly coupling the first microprocessor to the power meter, and performing an analog to digital conversion within the first microprocessor for converting the analog signal to a digital value.

[Claim 18] 18. The method of claim 16, further comprising coupling a signal calibration circuit between the device under test and the light detector, receiving the analog signal outputted by the power meter at the signal calibration circuit, and outputting the power indication having an inverse relationship with the analog signal.

[Claim 19] 19. The method of claim 18, further comprising:

providing the signal calibration circuit by:

providing an operational amplifier having an inverting terminal, a non-inverting terminal, and an output terminal;

providing a voltage reference source coupled to the non-inverting terminal;

providing a first resistor having a first end coupled to the analog signal outputted by the power meter, and a second end coupled to the inverting terminal; and

providing a second resistor having a first end coupled to the inverting terminal, and a second end coupled to the output terminal; and

outputting the power indication from the output terminal of the operational amplifier.

[Claim 20] 20. The method of claim 16, further comprising coupling a second microprocessor between the device under test and the light detector, performing an analog to digital conversion within the second microprocessor for converting the analog signal outputted by the power meter to a digital value corresponding to the analog signal, and output the power indication corresponding to the digital value from the second microprocessor to the first microprocessor.

[Claim 21] 21. The method of claim 14, wherein the light detector is a power meter having a photo sensor, and the method further comprises receiving the light emitted by the light emitting device at the photo sensor and outputting a digital value as the power indication.

[Claim 22] 22. The method of claim 14, wherein the device under test is an optical disc drive and the light emitting device is a laser diode.